37. (Amended) The circular target body according to claim [34] 44 wherein ~~the~~ a thickness of the body along periphery [, d_a] d_i is

$$[d_a]d_i \approx 0.5\ r_1$$

REMARKS

The rejection fo Claims 34 and 36-43 under 35 U.S.C. §112, ¶2 and the objection to the disclosure are deemed moot in light of the above amendments. Inasmuch as Claims 38-43 have been deleted from this application, any further comments with respect to the points raised at pages 4-08 of the Office Action are deemed unnecessary.

Likewise, with the deletion of Claims 28-43, the rejection thereof as being unpatentable over Sichmann under 35 U.S.C. §103 is deemed moot, thereby obviating the need for any further discussion.

Moreover, the rejection of Claims 34-43 on grounds of obviousness-type double patenting is deemed overcome by the filing of the attached Terminal Disclaimer. No further discussion is deemed necessary.

The rejection of Claims 34 and 37 under 35 U.S.C. §112, ¶1 is traversed in light of the submission of new Claim 44 in lieu of Claim 34 and also in view of the amendment of Claim 37. Reconsideration is requested in light of the following comments which are also relevant to the discussion of the basic distinction between the prior art and the *Pierce et al* reference.

The geometry of the claimed circular target body in Claim 44 is easily derived from the original disclosure of this application. Reference is made to page 9, line 15 to page 10, line 3 of the Specification from which it is clear that

$$0.2\phi_{13} \leq d_{113} \leq 0.5\phi_{13} \qquad (1)$$

Inasmuch as $\phi_{13} = 2r_{13}$, then

$$0.4r_{13} \leq d_{113} \leq r_{13} \qquad (2)$$

The amount of taper d_o at the target is disclosed in Figure 1 to be

$$d_o = d_{113} - a \qquad (3)$$

where a is preferably approximately 30% d_{113} as found at page 11, lines 14-15.

Thus,

$$d_o = D_{113} - 0.3\ d_{113} = 0.7\ d_{113} \qquad (4)$$

whereby equation (2) becomes

$$0.4r_{13} \leq \frac{1}{0.7}\ d_o \leq r_{13} \qquad (5)$$

Page 10, lines 4-14, further establish the relationship

$$1.3r_{13} \leq r_1 \leq 1.4r_{13} \quad \text{or} \qquad (6)$$

$$r_{13}/_{min} = \frac{r_1}{1.4} \quad \text{and} \quad r_{13}/_{max} = \frac{r_1}{1.3} \qquad (7)$$

Using the left-hand side of equation (5) as the lower limit and the right-hand side as the upper limit, equation (7) becomes

$$0.4\ r_{13}/_{min} \leq \frac{1}{0.7}\ d_o \leq r_{13}/_{max} \qquad (8)$$

and

$$0.4 \quad \frac{r_1}{1.4} \cdot .07 \leq d_o \leq 0.7 \cdot \quad \frac{r_1}{1.3}$$

that is

$$0.2\ r_1 \leq d_o \leq 0.54\ r_1$$

Attached hereto is a sketch showing the maximum and minimum taper d_o which, not being thickness dependent, can be installed in a sputtering apparatus to substantially improve the rates between the sputter material atomized off and that deposited on the workpiece, and also the homogeneity of the deposition.

For the foregoing reasons, the rejection of Claims 34-37 as being anticipated by *Pierce et al* under 35 U.S.C. §102 is traversed, and reconsideration is requested.

The *Pierce et al* patent defines (col. 11, lines 3 to 17), the target with an outside diameter of 65 mm and with a maximum height of 22.4 mm. The maximum height of the target, which is discussed in the context with bridging portion 231 of Fig. 3c, is the entire height of the target, i.e., d_1 of Fig. 1 in the instant application. Thus, this patent is completely silent about the importance of taper of the sputtering surface as a way to achieve markedly improved results.

The targets shown in Figs. 3b, 4a, 4b and 6 of *Pierce et al* are not comprised of a substantially bell-shaped sputtering surface, leading to improved sputtered-off material distribution and thus improved homogeneity of sputter deposition rate.

Accordingly, reconsideration and favorable action upon Claims 35-37 and 44 are earnestly solicited.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees, be charged, or any overpayment in fees be credited, to the Deposit Account of Evenson, McKeown, Edwards & Lenahan, Account No. 05-1323 (Docket #622/42052DV).

Respectfully submitted,

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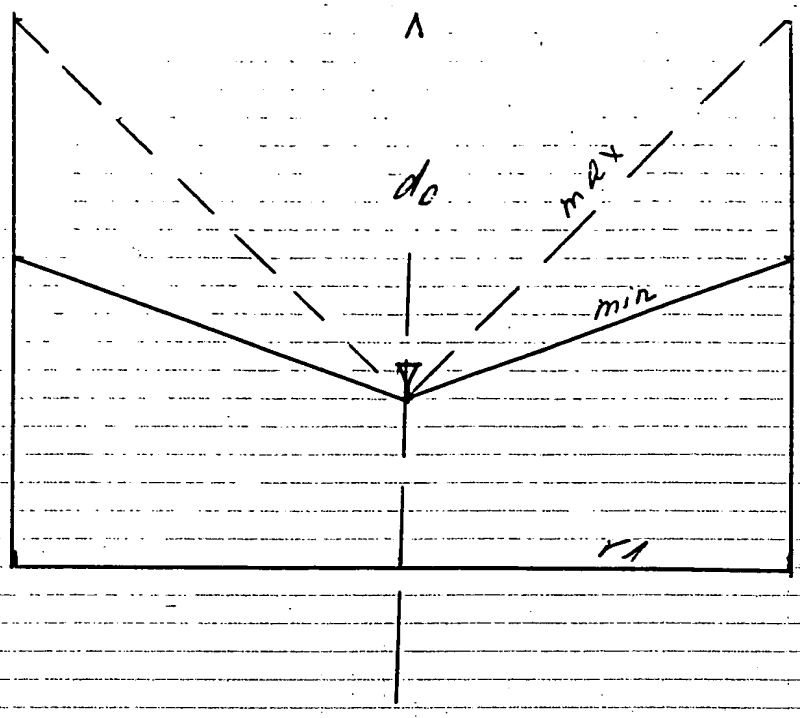

SKETCH A